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Underground Injection Control permit means a permit issued under the authority of Part C of the Safe Drinking Water Act at 42 U.S.C. 300h *et seq*.

Underground Injection Control program means the program responsible for regulating the construction, operation, permitting, and closure of injection wells that place fluids underground for storage or disposal for purposes of protecting underground sources of drinking water from endangerment pursuant to Part C of the Safe Drinking Water Act at 42 U.S.C. 300h *et seq*.

Vented emissions means intentional or designed releases of CH_4 or CO_2 containing natural gas or hydrocarbon gas (not including stationary combustion flue gas), including process designed flow to the atmosphere through seals or vent pipes, equipment blowdown for maintenance, and direct venting of gas used to power equipment (such as pneumatic devices).

[75 FR 75078, Dec. 1, 2010, as amended at 76 FR 73907, Nov. 29, 2011]

Subpart SS—Electrical Equipment Manufacture or Refurbishment

SOURCE: 75 FR 74859, Dec. 1, 2010, unless otherwise noted.

§ 98.450 Definition of the source category.

The electrical equipment manufacturing or refurbishment category consists of processes that manufacture or refurbish gas-insulated substations, circuit breakers, other switchgear, gas-insulated lines, or power transformers (including gas-containing components of such equipment) containing sulfur hexafluoride (SF_6) or perfluorocarbons (PFCs). The processes include equipment testing, installation, manufacturing, decommissioning and disposal, refurbishing, and storage in gas cylinders and other containers.

§ 98.451 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an electrical equipment manufacturing or refurbishing process and the facility meets the requirements of § 98.2(a)(1). Electrical equipment manufacturing and refurbishing facilities covered by this rule are those that have total annual purchases of SF_6 and PFCs that exceed 23,000 pounds.

§ 98.452 GHGs to report.

(a) You must report SF_6 and PFC emissions at the facility level. Annual emissions from the facility must include SF_6 and PFC emissions from equipment that is installed at an offsite electric power transmission or distribution location whenever emissions from installation activities (e.g., filling) occur before the title to the equipment is transferred to the electric power transmission or distribution entity.

(b) You must report CO_2, N_2O and CH_4 emissions from each stationary combustion unit. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C of this part.

§ 98.453 Calculating GHG emissions.

(a) For each electrical equipment manufacturer or refurbisher, estimate the annual SF_6 and PFC emissions using the mass-balance approach in Equation SS–1 of this section:

$$\text{User Emissions} = (\text{Decrease in } SF_6 \text{ Inventory}) + (\text{Acquisitions of } SF_6) - (\text{Disbursements of } SF_6) \quad \text{(Eq. SS-1)}$$

where:

Decrease in SF_6 Inventory = (Pounds of SF_6 stored in containers at the beginning of the year)—(Pounds of SF_6 stored in containers at the end of the year).

Acquisitions of SF_6 = (Pounds of SF_6 purchased from chemical producers or suppliers in bulk) + (Pounds of SF_6 returned by equipment users) + (Pounds of SF_6 returned to site after off-site recycling).

Disbursements of SF_6 = (Pounds of SF_6 contained in new equipment delivered to customers) + (Pounds of SF_6 delivered to equipment users in containers) + (Pounds of SF_6 returned to suppliers) + (Pounds of

SF_6 sent off site for recycling) + (Pounds of SF_6 sent off-site for destruction).

(b) Use the mass-balance method in paragraph (a) of this section to estimate emissions of PFCs associated with the manufacture or refurbishment of power transformers, substituting the relevant PFC(s) for SF_6 in Equation SS–1 of this section.

(c) Estimate the disbursements of SF_6 or PFCs sent to customers in new equipment or cylinders or sent off-site for other purposes including for recycling, for destruction or to be returned to suppliers using Equation SS–2 of this section:

$$D_{GHG} = \sum_{p=1}^{n} Q_p \quad \text{(Eq. SS-2)}$$

where:

D_{GHG} = The annual disbursement of SF_6 or PFCs sent to customers in new equipment or cylinders or sent off-site for other purposes including for recycling, for destruction or to be returned to suppliers.

Q_p = The mass of the SF_6 or PFCs charged into equipment or containers over the period p sent to customers or sent off-site for other purposes including for recycling, for destruction or to be returned to suppliers.

n = The number of periods in the year.

(d) Estimate the mass of SF_6 or PFCs disbursed to customers in new equipment or cylinders over the period p by monitoring the mass flow of the SF_6 or PFCs into the new equipment or cylinders using a flowmeter or by weighing containers before and after gas from containers is used to fill equipment or cylinders.

(e) If the mass of SF_6 or the PFC disbursed to customers in new equipment or cylinders over the period p is estimated by weighing containers before and after gas from containers is used to fill equipment or cylinders, estimate this quantity using Equation SS–3 of this section:

$$Q_p = M_B - M_E - E_L \quad \text{(Eq. SS-3)}$$

where:

Q_p = The mass of SF_6 or the PFC charged into equipment or containers over the period p sent to customers or sent off-site for other purposes including for recycling, for destruction or to be returned to suppliers.

M_B = The mass of the contents of the containers used to fill equipment or cylinders at the beginning of period p.

M_E = The mass of the contents of the containers used to fill equipment or cylinders at the end of period p.

E_L = The mass of SF_6 or the PFC emitted during the period p downstream of the containers used to fill equipment or cylinders and in cases where a flowmeter is used, downstream of the flowmeter during the period p (e.g., emissions from hoses or other flow lines that connect the container to the equipment or cylinder that is being filled).

(f) If the mass of SF_6 or the PFC disbursed to customers in new equipment or cylinders over the period p is determined using a flowmeter, estimate this quantity using Equation SS–4 of this section:

$$Q_p = M_{mr} - E_L \quad \text{(Eq. SS-4)}$$

where:

Q_p = The mass of SF_6 or the PFC charged into equipment or containers over the period p sent to customers or sent off-site for other purposes including for recycling, for destruction or to be returned to suppliers.

M_{mr} = The mass of the SF_6 or the PFC that has flowed through the flowmeter during the period p.

E_L = The mass of SF_6 or the PFC emitted during the period p downstream of the containers used to fill equipment or cylinders and in cases where a flowmeter is used, downstream of the flowmeter during the period p (e.g., emissions from

hoses or other flow lines that connect the container to the equipment that is being filled).

(g) Estimate the mass of SF_6 or the PFC emitted during the period p downstream of the containers used to fill equipment or cylinders (e.g., emissions from hoses or other flow lines that connect the container to the equipment or cylinder that is being filled) using Equation SS–5 of this section:

$$E_L = \sum_{i=1}^{n} F_{Ci} \times EF_{Ci} \quad \text{(Eq. SS-5)}$$

where:

E_L = The mass of SF_6 or the PFC emitted during the period p downstream of the containers used to fill equipment or cylinders and in cases where a flowmeter is used, downstream of the flowmeter during the period p (e.g., emissions from hoses or other flow lines that connect the container to the equipment or cylinder that is being filled)

F_{Ci} = The total number of fill operations over the period p for the valve-hose combination Ci.

EF_{Ci} = The emission factor for the valve-hose combination Ci.

n = The number of different valve-hose combinations C used during the period p.

(h) The mass of SF_6 or the PFC disbursed to customers in new equipment over the period p must be determined either by using the nameplate capacity of the equipment or, in cases where equipment is shipped with a partial charge, by calculating the partial shipping charge. Calculate the partial shipping charge by multiplying the nameplate capacity of the equipment by the ratio of the densities of the partial charge to the full charge. To determine the equipment's actual nameplate capacity, you must measure the nameplate capacities of a representative sample of each make and model and take the average for each make and model as specified at § 98.454(f).

(i) Estimate the annual SF_6 and PFC emissions from the equipment that is installed at an off-site electric power transmission or distribution location before the title to the equipment is transferred by using Equation SS–6 of this section:

$$EI = M_F + M_c - N_I \quad \text{(Eq. SS-6)}$$

where:

EI = Total annual SF_6 or PFC emissions from equipment installation at electric transmission or distribution facilities.

MF = The total annual mass of the SF_6 or PFCs, in pounds, used to fill equipment.

MC = The total annual mass of the SF_6 or PFCs, in pounds, used to charge the equipment prior to leaving the electrical equipment manufacturer facility.

NI = The total annual nameplate capacity of the equipment, in pounds, installed at electric transmission or distribution facilities.

§ 98.454 Monitoring and QA/QC requirements.

(a) For calendar year 2011 monitoring, you may follow the provisions of § 98.3(d)(1) through (d)(2) for best available monitoring methods rather than follow the monitoring requirements of this section. For purposes of this subpart, any reference in § 98.3(d)(1) through (d)(2) to 2010 means 2011, March 31 means June 30, and April 1 means July 1. Any reference to the effective date in § 98.3(d)(1) through (d)(2) means February 28, 2011.

(b) Ensure that all the quantities required by the equations of this subpart have been measured using either flowmeters with an accuracy and precision of ±1 percent of full scale or better or scales with an accuracy and precision of ±1 percent of the filled weight (gas plus tare) of the containers of SF_6 or PFCs that are typically weighed on the scale. For scales that are generally